USDA Foreign Agricultural Service
GAIN Report
Global Agricultural Information Network

THIS REPORT CONTAINS ASSESSMENTS OF COMMODITY AND TRADE ISSUES MADE BY USDA STAFF AND NOT NECESSARILY STATEMENTS OF OFFICIAL U.S. GOVERNMENT POLICY

Voluntary _ Public

Date: 6/23/2017
GAIN Report Number: KS1717

Korea - Republic of

Post: Seoul

2017 Bioethanol Workshop and Roundtable Seoul Korea

Report Categories:
Biofuels

Approved By:
Ross G. Kreamer

Prepared By:
Pete Olson and Sun Young Choi

Report Highlights:
FAS Seoul and the U.S. Grains Council Korea office hosted the second annual Bio-Ethanol Workshop and Roundtable in Seoul, in May. The event focused on the environmental benefits of including ethanol in Korea's transportation fuel. Allowing for the blending of ethanol would help Korea make progress towards its goal of increasing the usage of renewable energy, a focus of the new Moon administration. This report includes the workshop agenda as well as links to the presentations and a brief summary of each one.

General Information:

On May 16, 2017, FAS Seoul, in cooperation with the U.S. Grains Council (USGC) Korea office, hosted the second annual Bio-Ethanol Workshop and Roundtable. The purpose of the workshop was to increase awareness among the South Korean public of ethanol, including its availability, its production levels under different policies in different jurisdictions, and its environmental advantages over fossil fuels. Seoul's seemingly declining air quality led the organizers to focus on the delivery of information related to ethanol's well-documented positive impact on air quality. In addition, Korea's continued use of the gasoline additive MTBE was highlighted by speakers as an area of concern, given that several countries around the world have outlawed MTBE due to groundwater contamination issues. One common MTBE replacement is ethanol. The Embassy's Public Affairs section supported the activities by highlighting the workshop via official social media. Post's website also hosts an article covering the event, found here.

South Korea, also known as the Republic of Korea (ROK) is heavily dependent on energy imports, with nearly 97 percent coming from abroad. The top imported energy sources are oil, coal, and natural gas. The new Moon administration has been discussing a commitment to sourcing 20 percent of its energy from renewable sources by 2030, up from the recent average of around two percent. Post's view is that by allowing for or requiring a blend percentage of ethanol in its transportation fuel, the ROK government would have a readily available, proven technology to use as a tool in reaching this goal. Current government regulations prohibit the blending of ethanol into gasoline.

In addition to the workshop and roundtable discussions and presentations noted below, Post also facilitated a meeting between an official in the renewable energy mission area of the Ministry of Foreign Affairs and the USDA, USGC, and representatives of the U.S. ethanol industry. Following the agenda below, the report summarizes several of the presentations given during the workshop and provides links back to those presentations.

Post will continue to work with stakeholders, including USG agencies, to encourage the ROK government to permit the blending of ethanol into transportation gasoline. Next steps include highlighting an upcoming publication produced by workshop speaker Dr. Stephen Muller on the potential impact of ethanol on Seoul's air quality. This report is expected in September. Post is planning to host the next iteration of this workshop in 2018.

Workshop and Roundtable agendas:

THE BENEFITS OF Bio-ETHANOL

Office of Agricultural Affairs / U.S. Embassy & U.S. Grains Council Korea Office

May 16, 2017, Tuesday

08:40	Opening remarks by **Dr. Harry Baumes**, Director, Office of Energy Policy and New Uses / Office of the Chief Economist / USDA
08:50	(Presentation #1) "Global Overview – Growing The Global Ethanol Mark**" Mr. Brian Healy**, Economist of US Grains Council (USGC)

09:20 (Presentation #2) "U.S. Biofuel Policy, Opportunities, and Challenges" **Dr. Harry Baumes**, Director, Office of Energy Policy and New Issues / Office of the Chief Economist / USDA

09:50 (Presentation #3) "Ethanol Policy and Ethanol Industry Overview – Philippines" **Ms. Ruby B. De Guzman,** Chief Biomass Energy Management Division, Department of Energy, Philippine

10:20 1st Question & Answer Session

10:55 (Presentation #4) "Life-Cycle Analysis of Bioethanol Fuel" **Dr. Steffen Mueller**, Principal Research Economist, University of Illinois at Chicago

11:25 (Presentation #5) "Effects of the tailpipe emission (ultra-fine particles) through use of bioethanol fuel" **Mr. Jeffrey Scharping,** Director, Urban Air Initiative

11:55 (Presentation #6) "Current Situation & Prospect of Bio-Ethanol Fuel in Korea" M**r. Park, Cheon-kyu**, Team Leader for Alternative Fuel R&D Team, Korea Petroleum Quality & Distribution Authority (K-PETRO)

12:25 2nd Question & Answer Session

14:00 Closing Remarks by MC

15:00 – 16:30 Bioethanol Round Table Meeting (Consecutive Translation)

Participants:

U.S. Side

Dr. Harry Baumes (USDA)
Mr. Brian Healy (USGC)
Dr. Steffan Muller (UIC)
Mr. Jeffrey Scharping (Urban Air Initiative),
Ms. Ruby De Guzman (Philippines)
Mr. Jim Miller (Growth Energy)
Mr. Pete J. Olson (US Embassy)
Mr. Haksoo Kim (USGC/Moderator)
Mr. Sunyoung Choi (US Embassy)

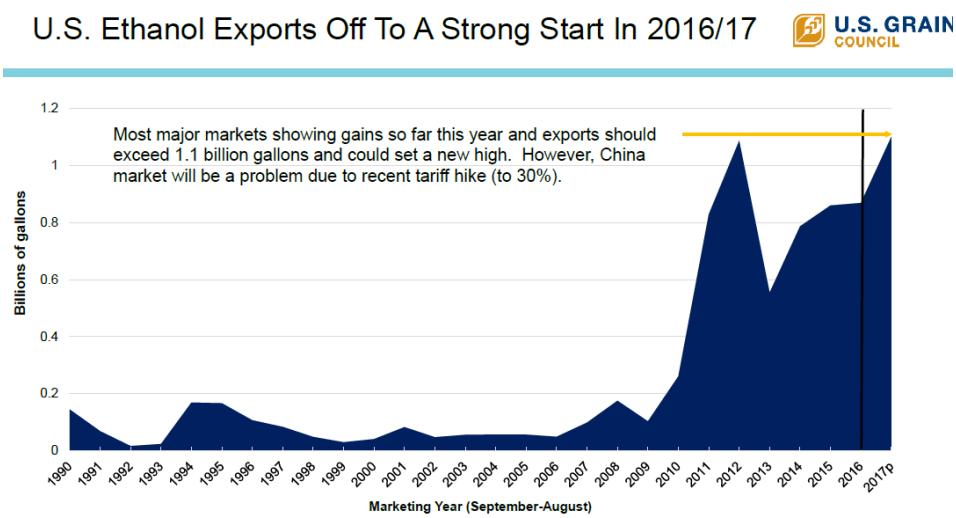
Korea Side

Dr. Chang, Ho Nam (Chairman, Korea Bio-Fuels Forum)
Dr. Ha, Jonghan (CTO, Research Institute of Petroleum Technology, K-PETRO)
Dr. Park, Cheon-kyu (K-PETRO)
Dr. Kim, Jae-Kon (K-PETRO)
Dr. Cha, Young-lok (Bioenergy Crop Research Institute / RDA)
Mr. Shin, Yong-an (GS Caltex Petrochemical Research Institute)
Mr. Jung, Joon-seong (Changhae Ethanol)
Mr. Jang, Martin (Korea Alcohol Industrial Co.)
Mr. Kil, Minok (Korea Alcohol & Liquor Industry Association)
Mr. Lee, Jeonghun (Korea Alcohol & Liquor Industry Association)
Prof. Kim, Jae-hoon (Sungkyunkwan University)
Prof. Lee, Shi-hoon (Jeonbuk National University)

Agenda

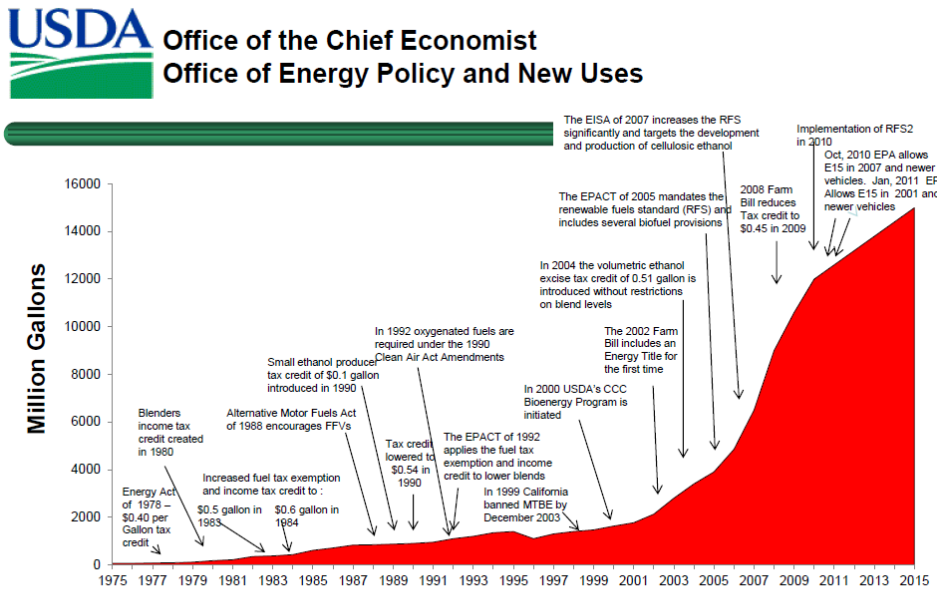
Bio-Ethanol Policy under the New U.S. Administration
Current situation of 2nd generation ethanol industry
Korea's Bio-Ethanol Policy and Status of Bio-Ethanol Industry
Mutual Cooperation for Development of Bio-Ethanol Industry

Workshop presentations and summaries:



Growing the Global Ethanol Market_B. Healy

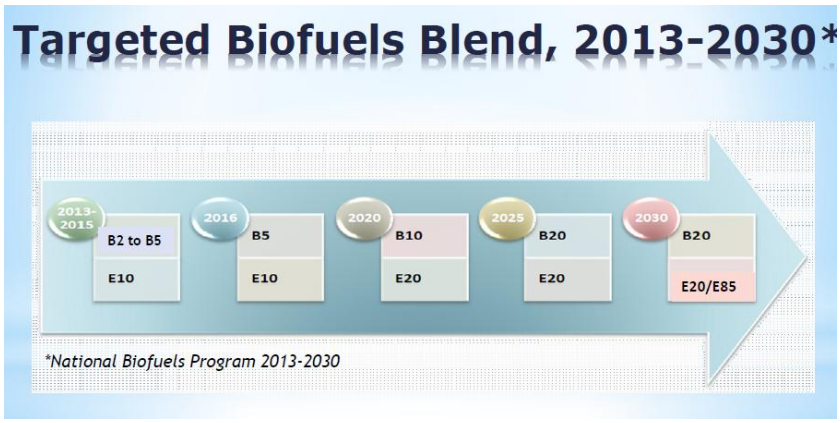
Mr. Brian Healy of USGC detailed recent and project ethanol production and trade. Last year, over two billion gallons of ethanol were exported around the world, with the U.S. and Brazil responsible for nearly three quarters of it.



Government Policies Increase Ethanol Production Over time

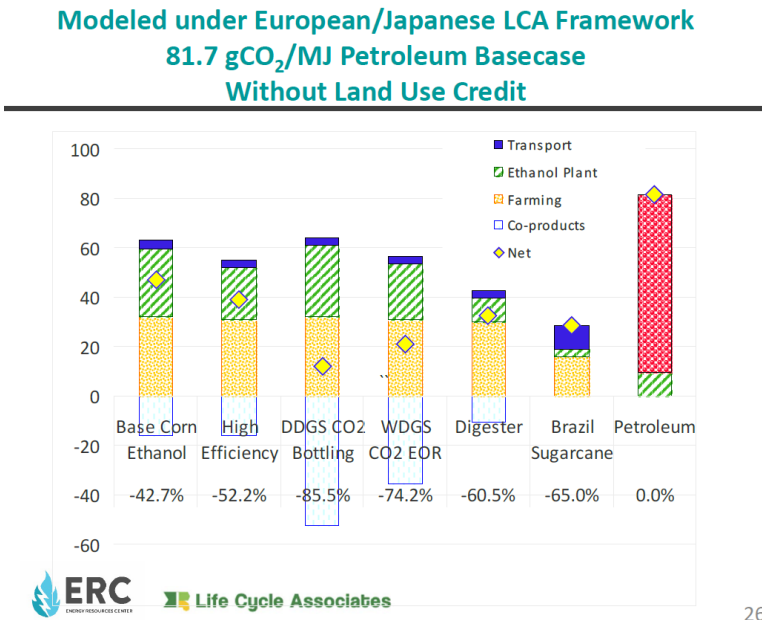
U.S. Bio-fuels Policy Opportunities and Challenges_H. Baumes

Dr. Harry Baumes of USDA reviewed the history of fuel ethanol production in the United States and the impact of policy over time. He also discussed the status of next generation ethanol production.



Ethanol Policy and Industry Overview Philippines_R. Guzman

Ms. De Guzman detailed the history of ethanol in the Philippines, noting their current requirement for an E10 gasoline. She explained various feedstock issues and also covered biodiesel production.

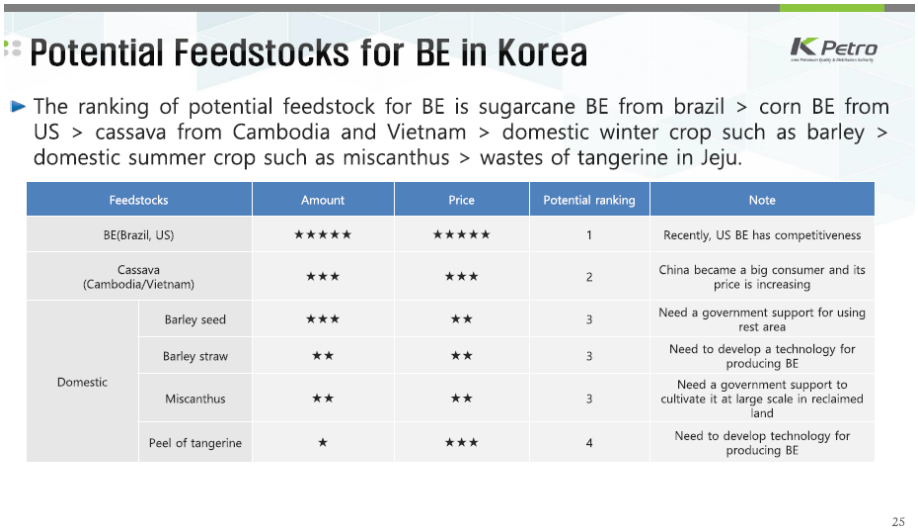


Life-Cycle Analysis of Bio-ethanol Fuel_S. Mueller

Dr Mueller reviewed his methodology for tracking greenhouse gas emissions generated by ethanol production and consumption. He highlighted the U.S. industry's continuous improvement in lowering the GHG profile of grain-based ethanol, noting that plants using the latest technology are able to produce an ethanol with less than half the lifecycle emissions of traditional gasoline.

[The Impact of Fuel Ethanol J. Scharping]

Mr. Scharping discussed the history of gasoline use in the United State. He explained how ethanol is used in U.S. gasoline as an oxygenate, replacing aromatics whose combustion leads to poor air quality.



Potential Feedstocks for BE in Korea

KPetro

- The ranking of potential feedstock for BE is sugarcane BE from brazil > corn BE from US > cassava from Cambodia and Vietnam > domestic winter crop such as barley > domestic summer crop such as miscanthus > wastes of tangerine in Jeju.

Feedstocks		Amount	Price	Potential ranking	Note
BE(Brazil, US)		★★★★★	★★★★★	1	Recently, US BE has competitiveness
Cassava (Cambodia/Vietnam)		★★★	★★★	2	China became a big consumer and its price is increasing
Domestic	Barley seed	★★★	★★	3	Need a government support for using rest area
	Barley straw	★★	★★	3	Need to develop a technology for producing BE
	Miscanthus	★★	★★	3	Need a government support to cultivate it at large scale in reclaimed land
	Peel of tangerine	★	★★★	4	Need to develop technology for producing BE

25

[Current Situation & Prospect of Bio-Fuels in Korea C. Park]

Mr. Park reviewed the ROK Government's renewable fuels policy, including future targets and progress to date. He noted policymakers' deliberations on feedstock issues for ethanol research and concluded with an overview of Korea's ethanol pilot projects.